WHAT IS CLAIMED IS:

1.   A Multi-Analyte Profile (MAP) Test Panel comprising 20 or more subsets of microspheres, the microspheres of one subset being distinguishable from those of another subset and harboring at least one reagent designed to interact selectively, if not specifically, with a predetermined analyte.

2.   The MAP Test Panel of claim 1 which comprises 50 or more, 75 or more, 100 or more, 200 or more, or 300 or more subsets of microspheres.

3.   The MAP Test Panel of claim 1 in which the microspheres of one subset are distinguishable from those of another subset by their characteristic fluorescence signatures.

10   4.   The MAP Test Panel of claim 3 in which the microspheres contain various concentrations of two or more fluorescent dyes.

5.   The MAP Test Panel of claim 1 in which the at least one reagent comprises a small molecule, natural product, synthetic polymer, peptide, polypeptide, polysaccharide, lipid, nucleic acid, or combinations thereof.

15   6.   The MAP Test Panel of claim 1 in which the predetermined analyte comprises a drug, hormone, antigen, antibody, protein, enzyme, DNA, RNA, or combinations thereof.

7.   A kit for assaying 20 or more predetermined analytes in a single pass through a flow analyzer comprising a Multi-Analyte Profile (MAP) Test Panel comprising 20 or more subsets of microspheres, the microspheres of one subset being distinguishable from those of 20   another subset and harboring at least one reagent designed to interact selectively, if not specifically, with a predetermined analyte.

8.   A method of assessing a subject's health or medical condition comprising:

(a)   providing one or more test samples obtained from a subject;

(b)   exposing the one or more test samples to a Multi-Analyte Profile (MAP) Test 25   Panel comprising 20 or more subsets of microspheres, the microspheres of one subset being distinguishable from those of another subset and harboring at least one reagent designed to interact selectively, if not specifically, with a predetermined analyte, which interaction generates biochemical data concerning the predetermined analyte;

(c)   gathering the biochemical data, if any, generated from the exposure;

30   (d)   comparing the biochemical data generated from the one or more samples obtained from the subject with accumulated biochemical data generated from test samples taken periodically from at least about 1,000 individuals over a given time interval, which accumulated biochemical data provide a relationship between one or more predetermined analytes and the

health or medical condition of a plurality of individuals whose accumulated biochemical data share similar features;

(e)   assessing the health or medical condition of the subject based, at least in part, on the results of the comparison.

9.   The method of claim 8 in which the given time interval is as long as about three years.

10.   The method of claim 8 in which the given time interval is as long as about five years.

11.   A method of creating a database containing biochemical data from at least about 1,000 subjects, comprising:

(a)   providing one or more test samples obtained from one or more subjects;

(b)   exposing a Multi-Analyte Profile (MAP) Test Panel to at least a portion of the one or more test samples to provide one or more test mixtures, the MAP Test Panel comprising 20 or more subsets of microspheres, the microspheres of one subset being distinguishable from those of another subset and harboring at least one reagent designed to interact selectively, if not specifically, with, and to generate biochemical data concerning, a predetermined analyte;

(c)   optionally, adding one or more supplemental reagents to the one or more test mixtures to further the generation of the biochemical data;

(d)   passing the exposed microspheres of the one or more test mixtures through a flow analyzer to extract the biochemical data generated;

(e)   compiling the biochemical data into a database, which permits retrieval of the biochemical data at least according to the identities or medical histories of the one or more subjects from which the one or more test samples were obtained;

(f)   repeating some or all of the foregoing steps until biochemical data from at least about 1,000 subjects are compiled into the database.

12.   The method of claim 11 in which the one or more test samples comprise biological fluids, mixtures, or preparations thereof.

13.   The method of claim 11 in which the one or more test samples comprise blood samples, mixtures, or preparations thereof.

14.   The method of claim 11 in which the MAP Test Panel comprises 50 or more, 75 or more, 100 or more, 200 or more, or 300 or more subsets of microspheres.

15.   The method of claim 11 in which the microspheres of one subset are distinguishable from those of another subset by their characteristic fluorescence signatures.
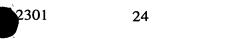
16.   The method of claim 11 in which the at least one reagent comprises a small molecule, natural product, synthetic polymer, peptide, polypeptide, polysaccharide, lipid, nucleic acid, or combinations thereof.

17.   The method of claim 11 in which the predetermined analyte comprises a drug, hormone, antigen, antibody, protein, enzyme, DNA, RNA, or combinations thereof.

18.   The method of claim 11 in which the one or more supplemental reagents comprises a substrate, antibody, affinity reagent, label, or combinations thereof.

19.   The method of claim 11 which further comprises filtering the exposed microspheres from the one or more test mixtures prior to passing the filtered microspheres through the flow analyzer.

20.   The method of claim 11 in which the biochemical data includes the presence, absence, or quantity of predetermined analyte present in the one or more test samples.

21.   The method of claim 11 in which the biochemical data includes data concerning 20 or more predetermined analytes.

22.   The method of claim 11 in which some or all of the subjects enjoy relatively good health.

23.   The method of claim 11 in which some or all of the subjects suffer from relatively poor health.

24.   The method of claim 11 in which some or all of the subjects have been diagnosed with a disease or other pathological condition.

25.   The method of claim 11 in which some or all of the subjects have been diagnosed with a neoplastic, neurodegenerative, skeletal, muscular, connective tissue, skin, organ, metabolic, addictive, psychiatric disease, or combinations thereof.

26.   The method of claim 11 in which some or all of the subjects are subjected to a physical, medical, or psychiatric examination.

27.   The method of claim 11 in which the medical histories of some or all of the subjects are determined or obtained.

28.   The method of claim 11 in which some or all of the subjects are requested to fill out a questionnaire.

29.   The method of claim 11 in which one or more test samples are obtained from one or more subjects at least every month, quarter, biannually, or annually.

30.   The method of claim 11 in which one or more test samples are obtained from one or more subjects annually over a period of at least three, five, seven, or nine years.

31.   The method of claim 30 in which the examinations or questioning of the one or more subjects are conducted or performed, or their medical histories determined or obtained, annually over the same period.

32.   The method of claim 31 which further comprises determining one or more changes in the biochemical data of the one or more subjects annually over the same period.

33.   The method of claim 32 which further comprises determining one or more changes in the medical conditions or histories of the one or more subjects annually over the same period.

34.   The method of claim 33 which further comprises determining the relationship, if any, between the one or more changes in the biochemical data and the one or more changes in the medical conditions or histories of the one or more subjects.

35.   The method of claim 34 in which the determining step finds that one or more changes in the biochemical data correlate with one or more changes in the medical conditions or histories of the one or more subjects.

36.   The method of claim 34 in which the determining step finds that one or more changes in the biochemical data are predictive of one or more changes in the medical conditions or histories of the one or more subjects.

37.   The method of claim 34 in which the determining step finds that one or more changes in the biochemical data cause one or more changes in the medical conditions or histories of the one or more subjects.

38.   The method of claim 11 in which biochemical data from at least about 5,000, 10,000, 25,000, 50,000, or 100,000 subjects are compiled into the database.